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Fibrin plug

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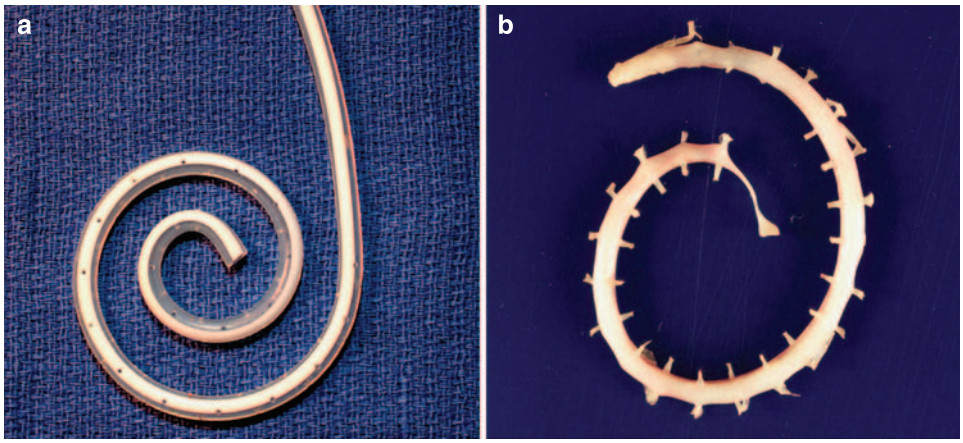

Figure 1 | Fibrin plug. Representative peritoneal dialysis catheter (**a**). Fibrin plug removed from the peritoneal dialysis catheter as a complete cast (**b**).

A 24-year-old gentleman with end-stage renal disease secondary to post-streptococcal glomerulonephritis presented with a poorly functioning continuous ambulatory peritoneal dialysis (CAPD) catheter. The patient had been initiated on CAPD as renal replacement therapy 5 years before presentation following uneventful laparoscopic catheter placement (Figure 1a, a representative CAPD catheter). On his current presentation, a plain film of the abdomen demonstrated the catheter to be well positioned. Both aspiration and flushing of the CAPD catheter were ineffective in relieving the obstruction. The patient was subsequently taken to the operating room for laparoscopic exploration. Intra-abdominal inspection revealed no adhesions and a well-positioned CAPD catheter in the pelvis. Inspection of the distal portion of the CAPD catheter revealed a dense fibrin plug occluding nearly every side orifice. This plug was removed as a complete cast (Figure 1b), and the CAPD catheter was thoroughly flushed. The patient resumed CAPD postoperatively without difficulty.

Catheter malfunction remains a common complication of patients undergoing renal replacement therapy with peritoneal dialysis, with a reported incidence of up to 55%.[1] Causes of catheter malfunction include (a) extraluminal obstruction from omental wrapping or adhesions, (b) intraluminal obstruction from blood or fibrin plugs, and (c) malfunction of the catheter due to tip migration. Management of an intraluminal obstruction can begin with aspiration and/or flushing of the catheter with a heparinized solution. Persistent obstruction may require the instillation of urokinase, streptokinase, or tissue plasminogen activator. Further non-operative interventions include the use of semiflexible wires or catheters under fluoroscopic guidance for relief of obstruction. Surgical intervention, which can often be achieved laparoscopically, allows for direct removal of the obstructing plugs, or, alternatively, complete catheter replacement if needed.

REFERENCE

1. Diaz-Buxo JA. Management of peritoneal catheter malfunction. *Perit Dial Int* 1998; **18:** 256–259.